

Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1-33. (Canceled)

34. (Previously Presented) A transmission system for a measurement device for a coordinate positioning apparatus, comprising:

a first station for mounting with the measurement device; and

a second station for mounting with the coordinate positioning apparatus;

wherein the first and second stations communicate using a spread spectrum radio link, the spread spectrum radio link being a frequency hopping radio link in which the first and second stations frequency hop between a series of different frequency channels,

wherein, in the event of a measurement event, the first station transmits information relating to the measurement event,

wherein the information relating to the measurement event transmitted by the first station includes data relating to a time of the measurement event.

35. (Canceled)

36. (Previously Presented) A transmission system according to claim 34 wherein the measurement device is a measurement probe.

37. (Previously Presented) A transmission system according to claim 36 wherein the measurement probe is a touch trigger probe.

38. (Previously Presented) A transmission system according to claim 36 wherein the measurement probe is a scanning probe.

39. (Previously Presented) A transmission system according to claim 34 wherein the transmission system uses a worldwide license free radio frequency band.

40. (Previously Presented) A transmission system according to claim 34 wherein the first and second stations are provided with a clock and wherein the clocks are synchronised at least once.

41. (Previously Presented) A transmission system according to claim 40 wherein the first station transmits a regular transmission and wherein when the second station receives the signal it will synchronise its clock with the first station.

42. (Previously Presented) A transmission system according to claim 41 wherein when the first and second stations are synchronised, their frequency hopping is synchronised.

43. (Canceled)

44. (Previously Presented) A transmission system according to claim 37 wherein said measurement event is a touch trigger event.

45. (Previously Presented) A transmission system according to claim 38 wherein said measurement event is a position measurement.

46. (Canceled)

47. (Previously Presented) A transmission system according to claim 34 wherein the first station transmits a regular transmission and wherein the information relating to the measurement event is transmitted in an additional transmission.

48. (Previously Presented) A transmission system according to claim 34 wherein, in the event of the first station receiving a transmission from the second station, a measurement event is performed by the measurement device and the first station transmits information relating to said measurement event.

49. (Previously Presented) A transmission system according to claim 34, wherein the measurement device comprises a touch trigger probe and the measurement event comprises a touch trigger event; wherein the first station transmits a regular signal and

wherein if the second station receives the regular signal it will synchronise with the first station;

wherein, in the event of a touch trigger event, the first station transmits information relating to the touch trigger event in the form of an additional signal which includes data relating to a time of the touch trigger event; and

wherein the second station is provided with means for receiving said data representing the time and providing a probe output signal derived therefrom.

50. (Previously Presented) A transmission system according to claim 34 wherein if a signal transmitted by the first station is not adequately received by the second station, the signal is retransmitted by the first station.

51. (Previously Presented) A transmission system according to claim 50 wherein if the second station receives the signal transmitted by the first station, it transmits an acknowledgement signal and if the first station does not receive an acknowledgement signal in response to its signal, it will re-transmit said signal.

52. (Previously Presented) A transmission system according to claim 34 wherein the transmission system comprises a half duplex link.

53. (Previously Presented) A transmission system according to claim 34 wherein, when a signal transmitted by the first station that contains information relating to the measurement event is received by the second station, the second station produces a measurement device output signal after a time delay.

54. (Previously Presented) A transmission system according to claim 53 wherein the time delay is chosen so that it is long enough to allow retransmission of the signal within the time delay.

55. (Previously Presented) A transmission system according to claim 34 wherein a master clock is provided at one end of the transmission system and a sliding correlator is provided to recover the master clock.

56. (Previously Presented) A transmission system according to claim 53 wherein a master clock is provided at one end of the transmission system and wherein the master clock provides a reference for the measurement device output signal time delay.

57. (Previously Presented) A transmission system according to claim 55 wherein if the second station receives a signal from the first station it transmits an acknowledgement signal and wherein the acknowledgement signal is synchronised with the master clock.

58. (Previously Presented) A transmission system according to claim 34 wherein a signal sent between the first and second stations comprises data bits and wherein data bits relating to more important information are provided with greater error protection than other data bits.

59. (Previously Presented) A transmission system according to claim 58 wherein the data bits relating to more important information may be provided with a higher hamming distance than other data bits.

60. (Previously Presented) A transmission system according to claim 34 wherein the first station transmits regular signals and wherein the first station has a mode and wherein each regular signal asks if the first station should change mode, and wherein if the first station receives an affirmative response, it changes mode.

61. (Previously Presented) A transmission system according to claim 34 wherein if the first and second stations are not synchronised, the first and second stations will hop between frequency channels at different rates until the second station receives a signal and synchronises with the first station.

62. (Previously Presented) A transmission system according to claim 34 wherein if the second station detects background noise above a predetermined level on the selected frequency channel, it will change to a different frequency channel.

63. (Previously Presented) A transmission system according to claim 34 wherein the first station has an ID code and wherein the second station can be set to only communicate with the said first station having said ID code.

64. (Previously Presented) A transmission system according to claim 34 wherein the first station is provided with a mode in which it transmits a signal containing its ID code and the second station is provided with a mode in which on receiving said signal, it is set to only communicate with the first station having this ID code.

65-66. (Canceled)

67. (Currently Amended) A transmission system for a measurement device for a coordinate positioning apparatus, comprising:

a first station for mounting with the measurement device; and
a second station for mounting with the coordinate positioning apparatus,
wherein the first and second stations communicate using a spread spectrum radio link,

wherein a master clock is provided at one end of the transmission system, the master clock providing a time standard for the whole system, and a correlator is provided at the other end of the transmission system to recover the master clock.

68. (Previously Presented) A transmission system according to claim 67, wherein the first station comprises the master clock and the second station comprises the correlator.

69. (Previously Presented) A transmission system for a measurement device for a coordinate positioning apparatus, comprising:

a first station for mounting with the measurement device; and

a second station for mounting with the coordinate positioning apparatus;
wherein the first and second stations communicate using a spread spectrum
radio link,

wherein, in the event of a measurement event, the first station transmits a
signal comprising information relating to the measurement event,

wherein, when a signal transmitted by the first station containing information
relating to the measurement event is received by the second station, the second station
produces a measurement device output signal,

wherein there is a time delay between the measurement event and the
production of the measurement device output signal,

wherein, if a signal transmitted by the first station is not adequately received
by the second station, the signal is retransmitted by the first station, and

wherein the time delay is sufficiently long to allow the first station to
retransmit the signal within the time delay.

70. (Previously Presented) A transmission system according to claim 69, wherein
the measurement device comprises a touch trigger probe, the measurement event comprises a
trigger event and the measurement device output signal produced by the second station
comprises a machine station probe output, and wherein the delay between each trigger event
and the resulting machine station probe output is substantially constant.

71. (Previously Presented) A transmission system according to claim 69, wherein
the first station comprises a timer for measuring a time between the measurement event and
the transmission of the signal comprising information relating to the measurement event,
wherein the information relating to the measurement event comprises the time measured by
the timer.